

REMARKS/ARGUMENTS

In response to the above-identified Office Action, Claims 2-24 and 26-29 remain pending in the present application.

Applicant has presented arguments below that Applicant believes should render the claims allowable. In the event, however, that the Examiner is not persuaded by Applicant's arguments, Applicant respectfully requests that the Examiner enter the remarks to clarify issues upon appeal.

For the reasons set forth more fully below, Applicant respectfully submits that the present claims are allowable. Consequently, reconsideration, allowance and passage to issue of the present application are respectfully requested.

Cited Art Rejections

The Examiner rejected: claims 2, 12-16, 19-24, and 26-29 under 35 U.S.C. 103(a) as being unpatentable over Copriviza et al ("Copriviza") in view of Echeita et al ("Echeita") and further in view of Iggulden; claim 3 under 35 U.S.C. 103(a) as being unpatentable over Copriviza in view of Echeita and Iggulden and further in view of Linnartz; claim 17 under 35 U.S.C. 103(a) as being unpatentable over Copriviza, Echeita, and Iggulden and further in view of Caporizzo; claims 4-11 under 35 U.S.C. 103(a) as being unpatentable over Copriviza, Echeita, and Iggulden and further in view of Goodman et al ("Goodman"); and claim 18 under 35 U.S.C. 103(a) as being unpatentable over Copriviza, Echeita, and Iggulden and further in view of Goodman. Applicant respectfully disagrees with the rejections.

In the present invention, automated monitoring of quality of service of digital video material being distributed and played occurs. The automated monitoring includes embedding a signature in

each frame of the digital video material by a program source device control with computation of play-out statistics for the digital video material based on the signature by a program play-out device control. The present invention also includes utilizing a hashing algorithm to produce the signature for each frame in the digital video material during encoding of the digital video material, as recited in varying form in independent claims 2, 13, and 26.

In making the rejection, the Examiner cites Copriviza for disclosing the recited embedding of a signature in each frame of video material and computing play-out statistics based on the signature but admits that Copriviza fails to disclose that the video material is digital. Echeita is cited for teaching a method for monitoring quality of service of digital video for combination with Copriviza. Both Copriviza and Echeita are admitted by the Examiner as failing to disclose utilizing a hashing algorithm to produce the signature. Thus, the Examiner cites Iggulden for combination with Copriviza and Echeita, and states, "Iggulden discloses utilizing a hashing algorithm to produce a signature for each frame in a video material (col. 6, lines 25-36), allowing the material to be quickly identified in real time."

Further, the Examiner states:

[A]pplicant argues that Iggulden fails to teach or suggest using a hashing algorithm to produce a signature in each frame. It is Copriviza who teaches adding a signature to each frame (col. 8, lines 26-39). Iggulden teaches generating signatures using hash codes, which has the inherent and well known benefit of high speed locating of representative data objects when hash codes are used. It is the combination of Copriviza and Iggulden which meets the limitation of using a hashing algorithm to produce a signature in each frame.

Applicant respectfully disagrees that the combination of Copriviza and Iggulden meets the limitation of using a hashing algorithm to produce a signature in each frame.

Copriviza discloses in col. 8, lines 26-40, the encoding of a video tape of program material with a "predetermined unique and non-repeating sequence" as a means of individually and uniquely

identifying each and every frame of the video program material. Copriviza further discloses in col. 15, lines 50-64, that in a

preferred embodiment each frame is numbered successively. ... It will be appreciated that the consecutive frame numbering system ... is merely one of many sequential frame number systems that may be used to identify each and every frame individually and uniquely. For example, succeeding frames in the program may be numbered in any predetermined sequence as long as the decoders in the field receivers 36 are programmed to recognize this sequence as being the normal sequence of a program which is received without interruption.

Copriviza clearly discloses the use of a numbering sequence in order to provide the unique identification of successive frames. As such, while the number in each frame will vary, it has context relative to preceding and successive frames based on the numbering sequence used. It is this context that is utilized in Copriviza to determine whether a frame sequence discontinuity (FSD) packet needs to be generated: (col. 15, lines 44-49) “An FSD packet is generated ... when successive frames are not in the proper sequence in which data is encoded...” Thus, without such use of a numbering sequence to provide context, the manner of producing the FSD packets is compromised, and the system of Copriviza is fundamentally altered.

Applicant fails to see how the use of a numbering sequence to identify successive frames in a program from Copriviza can be combined with the disclosure of a hash code signature in Iggulden, since there is nothing to teach or suggest that a hash code signature could or would be used to provide a predetermined unique and non-repeating sequence, as required by the identifier signature in Copriviza.

Accordingly, Applicant respectfully submits that Copriviza in view of Echeita, and further in view of Iggulden fails teach, show, or suggest use of a hashing algorithm to produce the signature for each frame in the digital video material and/or during encoding of the digital video material, as recited

in the independent claims 2, 13, and 26. Accordingly, Applicant respectfully requests withdrawal of the rejections of independent claims 2, 13, and 26.

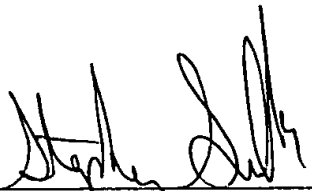
Further, claims 3-12, 14-24, and 27-29 depend directly or indirectly on one of the independent claims. Thus, these claims incorporate the features of one of the independent claims, while adding other features. Accordingly, these claims also are respectfully submitted as allowable over the cited art for at least those reasons associated with the independent claims, as presented herein. In addition, Applicant respectfully submits that the art cited in the separate rejections for some of these dependent claims is insufficient to overcome the deficiencies of Copriviza in view of Echeita and further in view of Iggulden. Therefore, Applicant respectfully requests withdrawal of the rejections against these claims.

Applicant's attorney believes that this application is in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicant's attorney at the telephone number indicated below.

Respectfully submitted,

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Date



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